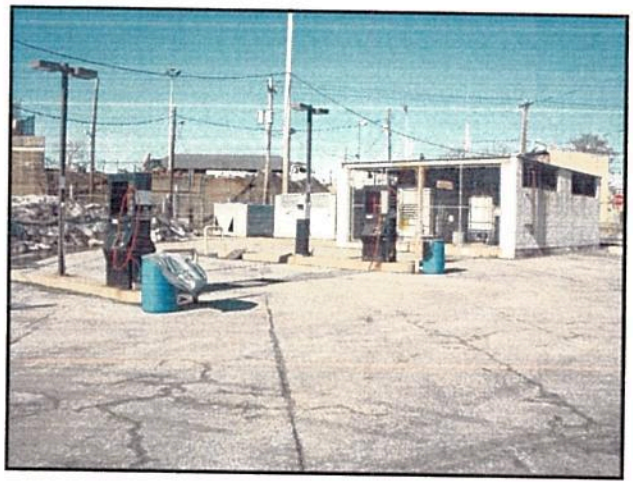
Pennoni

PHASE I ENVIRONMENTAL SITE ASSESSMENT & LIMITED HAZARDOUS MATERIALS BUILDING SURVEY

Former Philadelphia Gas Works Refueling Station
North Ninth Street and West Berks Street
Philadelphia, Pennsylvania 19122



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EXECUTIVE SUMMARY

On behalf of the City of Philadelphia Department of Commerce ("Client"), Pennoni Associates Inc. ("Pennoni") has performed a Phase I Environmental Site Assessment ("ESA") and Limited Hazardous Materials Building Survey of the Former Philadelphia Gas Works ("PGW") Refueling Station located at North 9th Street and West Berks Street in Philadelphia, Pennsylvania. The subject property consists of 1.946 acres of land improved with an asphalt-paved parking lot as well as an inactive compressed natural gas ("CNG") refueling station formerly utilized by PGW to refuel CNG-powered fleet vehicles.

Pennoni conducted the ESA in general conformance with the scope and limitations the American Society for Testing and Materials ("ASTM") Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-05. ASTM E 1527-05 is a voluntary consensus standard that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." The procedures included in the ASTM E1527-05 standard comply with the United States Environmental Protection Agency ("USEPA") 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule.

The primary objective of the Phase I ESA was to identify recognized environmental conditions ("RECs") in connection with the subject property. A REC is defined as the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

To identify RECs in connection with the subject property, Pennoni's Phase I ESA included a records review, a site reconnaissance, interviews with owners, operators, and occupants of the subject property, interviews with local, state, and federal government officials, a review of information provided by the User (i.e., the party seeking to complete an environmental site assessment of the subject property), and preparation of a report presenting Pennoni's findings, opinions, conclusions and supporting documentation. The Phase I ESA for the subject property did not include any testing or sampling of materials (e.g., soil, water, air).

Pennoni also conducted a Limited Hazardous Materials Building Survey which included inspections/surveys for asbestos containing materials ("ACM"), lead-based paint ("LBP"), radon, and lead in drinking water. As appropriate to meet industry-standard practices and guidelines, as well as applicable regulations of Philadelphia County, the Pennsylvania Department of Environmental Protection ("PADEP"), the U.S. Environmental Protection Agency ("USEPA"), and the U.S. Department of Housing and Urban Development ("HUD"), samples of representative materials and media, e.g. ACM and LBP, were collected and analyzed by appropriately accredited laboratories using agency-accepted methodologies.

Our findings, opinions, and conclusions regarding RECs in connection with the subject property are summarized below. Results of our evaluation of non-scope considerations including wetlands, flood zones, and radon are also summarized below.

Findings and Opinion

The subject property is located northwest of the intersection of North 9th Street and West Berks Street at 1900 North 9th Street (also known as 901 West Berks Street) in Philadelphia, Pennsylvania. The property is bound by West Norris Street to the north, North 9th Street to the east, West Berks Street to the south, and a line extending 25 feet from the retaining wall of the Southeastern Pennsylvania Transportation Authority's ("SEPTA's") R-6 Regional Rail Line to the west. The property can be found on the United States Geological Survey ("USGS") 7.5- minute topographic quadrangle for Philadelphia, Pennsylvania-New Jersey, and the approximate center of the subject property is located at the following coordinates: 39.981484 degrees North latitude, 75.149009 degrees West longitude.

The subject property consists of 1.946 acres of land identified as Philadelphia Tax Map 16-N-2 Parcel 8 (Lot 172). The subject property is currently owned by the City of Philadelphia and is improved with an asphalt-paved parking lot utilized by PGW personnel as well as an inactive CNG refueling station formerly utilized by PGW to refuel CNG-powered fleet vehicles. The CNG refueling station on the property will be decommissioned and demolished in preparation for the development of a mixed use, mixed income transit-oriented development. The proposed development includes a four-story building with a Community Technology and Education Center, a café, and retail uses on the first floor and rental apartments (124 total) on the remaining floors.

Historically, the subject property was developed circa 1875 as a rail yard by the Pennsylvania & Reading Railroad Company. The subject property was operated as a coal yard between approximately 1895 and 1980. The City of Philadelphia acquired the subject property in 1986 and the property was used to store road salt by the City of Philadelphia Streets Department. A parking lot was developed on the subject property by PGW in 1986. The CNG refueling station was constructed onsite in 1996.

The key findings of Pennoni's Phase I ESA for the subject property are presented in the table below.

FINDINGS SUMMARY TABLE

Area of Concern	Not Identified/No Significant Finding	Identified/ Deemed *De minimus* /Not a REC	Identified REC/ Area of Concern	Further Inv. Rec'd. /Action Needed
Historical Review			X	Yes
On-Site Industrial Operations	X			
User Provided Information	X			
Adjoining Properties of Concern			X	Yes
Regulatory Agency Review	X			
Hazardous Substances		X		Yes
Storage Tanks	X			
Floor Drains/Sumps	X			

Area of Concern	Not Identified/No Significant Finding	Identified/ Deemed *De minimus* /Not a REC	Identified REC/ Area of Concern	Further Inv. Rec'd. /Action Needed
Other Issues – stains and corrosion, drains, sumps, stressed vegetation, solid waste, septic systems, etc.	X			
PCBs	X			
Asbestos-Containing Materials	X			
Lead-Based Paint	X			
Wetlands	X			
Radon	X			

Conclusions and Recommendations

This assessment has revealed no conditions indicative of releases or threatened releases of hazardous substances on, at, in or to the subject property except for the following:

1. A railroad operated along the western boundary of the subject property as early as 1843, and the subject property and surrounding area were developed for industrial purposes as early as 1875. The subject property was developed circa 1875 as a rail yard by the Pennsylvania & Reading Railroad Company and subsequently operated as a coal yard between approximately 1895 and 1980. In addition, Mr. R.S. Rajan with the Engineering and Building Services Department of PGW indicated that structural-grade fill was brought onsite to bring the property to grade and to provide a stable foundation for the parking lot that was paved onsite in 1986. Mr. Rajan was not aware of the origin or the environmental quality of the fill material brought onsite at this time, and no clean fill certification was provided. Subsurface soils and/or groundwater on the subject property may have been impacted with concentrations of regulated substances at concentrations exceeding PADEP Residential Used Aquifer Statewide Health Standards as a result of the historic industrial operations conducted on and around the subject property and as a result of the placement of historic fill on the subject property. Pennoni recommends that a subsurface soil and grab groundwater investigation be conducted on the subject property.

2. The PGW Transportation Department/Meter Shop facility located adjacent to the north of the subject property at 900-940 West Diamond Street is listed in the Leaking Underground Storage Tank ("LUST") and Voluntary Cleanup Program ("VCP") databases in the Environmental Data Resources ("EDR") Radius Map report. The LUST database entry indicates that two (2) releases from underground storage tanks containing petroleum were reported for this site, including one (1) release reported on August 5, 1989 and one (1) release reported on September 24, 2007. The facility status for the 1989 release is listed as inactive; the status field for the 2007 release indicates that interim remedial actions have been initiated or completed. This site is also listed in the VCP database; PGW indicated that this property is engaged in an Act 2 process to address the identified releases. Subsurface soil and/or groundwater beneath the subject property may have been impacted with concentrations of regulated substances at concentrations exceeding PADEP Residential Used Aquifer Statewide Health Standards by releases at this site. Pennoni

recommends that a subsurface soil and grab groundwater investigation be conducted on the subject property.

Pennoni identified the following *de minimus* conditions in connection with the subject property:

1. Pennoni observed one (1) 5-gallon bucket containing approximately two (2) gallons of used oil within the CNG refueling station structure. The container was open; however, no spillage or evidence of leakage was observed on the concrete surface beneath this bucket. Pennoni recommends that this waste oil be removed from the subject property and disposed in accordance with state and federal regulations.

Pennoni also identified the following Non-Scope Considerations in connection with the subject property:

1. Pennoni conducted an ACM survey of the structures on the subject property. Pennoni inspected all accessible common areas of both the CNG refueling station and the guard shack as part of the asbestos survey. One (1) homogeneous area (or suspect material) was identified in the survey area. The suspect material included patterned 12x12 inch vinyl floor tile and associated mastic within the guard shack. Pennoni collected two (2) samples of this material for laboratory analysis for asbestos content. The two (2) samples were collected, properly packaged, labeled, and transported to EMSL Analytical, Inc. ("EMSL") located in Westmont, New Jersey for analysis. EMSL is accredited under the National Voluntary Laboratory Accreditation Program. The samples were analyzed for asbestos using Polarized Light Microscopy ("PLM") via EPA Method 600/R-93/116. Laboratory analysis did not reveal the presence of greater than 1% asbestos in the samples. Therefore, ACM was not identified on the subject property.

2. Pennoni performed a LBP survey of the buildings on the subject property to determine if LBP is present on any of the existing painted surfaces or building components. The testing was performed on-site on March 1, 2010 utilizing a portable x-ray fluorescence lead-in-paint analyzer ("XRF") operated by Jim Amendt, a certified lead-testing technician. The survey included screening homogeneous painted surfaces with the XRF in order to determine the lead content of the paint. Five (5) surfaces were tested throughout the accessible interior and exterior areas of the structures on the subject property. Of the five (5) surfaces tested, none tested positive for lead. Therefore, LBP was not identified on the subject property.

1.0 INTRODUCTION

On behalf of the City of Philadelphia Department of Commerce ("Client"), Pennoni Associates Inc. ("Pennoni") has performed a Phase I Environmental Site Assessment ("ESA") and Limited Hazardous Materials Building Survey of the Former Philadelphia Gas Works ("PGW") Refueling Station located at North 9th Street and West Berks Street in Philadelphia, Pennsylvania. The subject property consists of 1.946 acres of land improved with an asphalt-paved parking lot as well as an inactive compressed natural gas ("CNG") refueling station formerly utilized by PGW to refuel CNG-powered fleet vehicles.

Pennoni conducted the Phase I ESA in general conformance with the scope and limitations the American Society for Testing and Materials ("ASTM") Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-05. The procedures included in the ASTM E1527-05 standard comply with the United States Environmental Protection Agency ("USEPA") 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule.

ASTM E 1527-05 is a voluntary consensus standard that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." The ASTM practice is intended to permit a User (i.e., the party seeking to complete an environmental site assessment of the subject property, in this case, the City of Philadelphia Department of Commerce) to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") liability (i.e., landowner liability protections or LLPs). The practice does not address whether requirements in addition to all appropriate inquiry have been met in order to qualify for LLPs (e.g., continuing obligations not to impede the integrity and effectiveness of AULs, the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations).

ASTM E 1527-05 does not include any testing or sampling of materials (e.g., soil, water, air, building materials). However, Pennoni also conducted a Limited Hazardous Materials Building Survey which included inspections/surveys for asbestos containing materials ("ACM"), lead-based paint ("LBP"), radon, and lead in drinking water. As appropriate to meet industry-standard practices and guidelines, as well as applicable regulations of Philadelphia County, the Pennsylvania Department of Environmental Protection ("PADEP"), the U.S. Environmental Protection Agency ("USEPA"), and the U.S. Department of Housing and Urban Development ("HUD"), samples of representative materials and media, e.g. ACM and LBP, were collected and analyzed by appropriately accredited laboratories using agency-accepted methodologies.

This report presents the findings, opinions, and conclusions, and supporting documentation for the Phase I ESA and Limited Hazardous Materials Building Survey of the subject property, completed by Pennoni as of the date of this report. Information made available to Pennoni after this date, which would change the conclusions of this report, will be forwarded upon receipt.

1.1 Purpose

The purpose of the assessment was to identify recognized environmental conditions ("RECs") in connection with the subject property. A REC is defined as the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

1.2 Scope of Work

Pennoni's Phase I ESA for the subject property included a records review, site reconnaissance, interviews with owners, operators, and occupants of the subject property, interviews with local, state, and federal government officials, review of information provided by the User, and preparation of this report presenting Pennoni's findings, opinions, conclusions and supporting documentation, as referenced in our Proposal # PRO 10-16297, dated February 16, 2010.

The environmental professionals responsible for the preparation of this Report have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. The Report was reviewed by Mr. William Schmidt, P.E., Associate Vice President of Pennoni Associates Inc. Mr. Schmidt was supported by various staff, including Mr. Jeffrey M. Ham, Associate Environmental Scientist with Pennoni, and Mr. Jim Amendt, Staff Environmental Scientist with Pennoni. Mr. Schmidt meets the definition of an "Environmental Professional" as defined in the ASTM standard and AAI regulation. The Environmental Professional Statement and Signature are presented in Section 11.0 of this report.

1.3 Limitations, Exceptions, Special Terms and Conditions

Pennoni conducted a Phase I ESA of the subject property in general conformance with the scope and limitations of ASTM Standard E 1527-05. The Phase I ESA for the subject property did not deviate from this standard. Data gaps that would affect the ability of the environmental professional to identify conditions indicative of releases or threatened releases of pollutants, contaminants, petroleum and petroleum products are identified in Section 8.0 of this report. This Phase I ESA is presumed to be valid provided it has been completed less than 180 days prior to the acquisition of the subject property or the date of the intended transaction.

1.4 User Reliance

This Report and findings, conclusions, and recommendations contained herein, are furnished for the sole use and benefit of the Client to aid in understanding the environmental condition and potential liabilities of the subject property. This Report may not be assigned, quoted, reproduced, relied upon, or otherwise used without the express prior written consent of Pennoni.

All documents prepared by Pennoni Associates Inc. are the instruments of service in respect of the project. They are not intended or represented to be suitable for reuse by owner or others on extensions of the project or on any other project.

Any reuse without the written verification or adaptation by Pennoni Associates Inc. for the specific purpose intended will be at owner's sole risk and without liability or legal exposure to Pennoni Associates and owner shall indemnify and hold harmless Pennoni Associates Inc. from all claims, damages, losses, and expenses arising out of or resulting there from.

2.0 SUBJECT PROPERTY DESCRIPTION

The following paragraphs provide a description of the subject property including its location, general characteristics, and current use. Current uses of adjoining properties and properties in the surrounding area are also described below.

2.1 Property Location and Legal Description

The subject property is located northwest of the intersection of North 9th Street and West Berks Street at 1900 North 9th Street (also known as 901 West Berks Street) in Philadelphia, Pennsylvania. The property is bound by West Norris Street to the north, North 9th Street to the east, West Berks Street to the south, and a line extending 25 feet from the retaining wall of the Southeastern Pennsylvania Transportation Authority's ("SEPTA's") R-6 Regional Rail Line to the west. The property can be found on the United States Geological Survey ("USGS") 7.5- minute topographic quadrangle for Philadelphia, Pennsylvania-New Jersey, and the approximate center of the subject property is located at the following coordinates: 39.981484 degrees North latitude, 75.149009 degrees West longitude. The location of the subject property is depicted on Figure 1—*Property Location Map*, which is included in Appendix A.

The subject property, which is currently owned by the City of Philadelphia, consists of approximately 1.946 acres of land identified as Philadelphia Tax Map 16-N-2 Parcel 8 (Lot 172). The property is also identified as Philadelphia Board of Revision of Taxes account number 781597700. A copy of a tax parcel map depicting the subject property is included as Figure 2—*Tax Map*, included in Appendix A.

2.2 Subject Property Characteristics

The following paragraphs describe the general characteristics of the subject property, including its current use and a description of structures, roads, and other improvements (i.e., heating/cooling system, sewage disposal, source of potable water, etc.) on the subject property.

2.2.1 Current Use of the Subject Property

The subject property is currently owned by the City of Philadelphia and is improved with an asphalt-paved parking lot utilized by PGW personnel as well as an inactive CNG refueling station formerly utilized by PGW to refuel CNG-powered fleet vehicles. The CNG refueling station on the property will be decommissioned and demolished in preparation for the development of a mixed use, mixed income transit-oriented development. The proposed development includes a four-story building with a Community Technology and Education Center, a café, and retail uses on the first floor and rental apartments (124 total) on the remaining floors.

2.2.2 Site Structures

The subject property is currently improved with an asphalt-paved parking lot utilized by PGW personnel. SEPTA has a property interest that extends from their elevated tracks 25-feet into the parking lot that extends onto the subject property. An inactive CNG refueling station formerly utilized by PGW to refuel CNG-powered fleet vehicles is located in the northeast corner of the subject property. The CNG refueling station, which was constructed in 1996, consists of an approximately 800 square foot cinderblock masonry structure constructed over a concrete slab

with a corrugated metal roof supported by a steel frame that houses three (3) 48-inch inner diameter spherical CNG tanks, a compressor, a gas dryer, and a small control room. A second compressor, a 150-horespower compressor that replaced the compressor housed within the structure as the primary compressor in 1999, and an electrical switchgear box are located on a concrete pad on the northwest side of this structure. Two (2) CNG dispenser pump islands are located southwest of the structure. A plan depicting the features of the CNG refueling station on the property is included in Appendix C. Natural gas is still present within the components of the CNG refueling station; however, the station is no longer in use as PGW has phased out their fleet of CNG vehicles. While in use, natural gas obtained from a gas supply line by the northwest corner of the refueling station at a pressure of approximately 20 pounds per square inch ("psi") would be compressed by one (1) of the two (2) compressors onsite to 5,000 psi, stored in the three (3) aboveground CNG tanks, dried to remove any moisture by the gas dryer, and then dispensed as needed to refuel vehicles at the two (2) dispenser islands.

An eight-foot chain link fence surrounds the subject property; access to the property is obtained via three (3) electric-operated vehicle gates (which were not operational at the time of Pennoni's inspection) as well as one (1) pedestrian access gate.

2.2.3 Site Utilities

The refueling station structure is not heated or cooled with the exception of the small control room, which is heated/cooled by a wall-mounted, electric heat pump. Natural gas is supplied to the subject property by the Philadelphia Gas Works. Electrical service is provided by PECO Energy. The structures on the subject property are not connected to sanitary sewer and water service; however, sanitary sewer and water service are provided to the area by the Philadelphia Water Department. The subject property was connected to the City of Philadelphia storm sewer system in June of 1986.

2.3 Current Uses of Adjoining Properties and Properties in the Surrounding Area

Adjoining properties, and properties and roads in the area surrounding the subject property, are identified below.

- North – West Norris Street borders the subject property to the north, and an equipment storage yard operated by PGW is located farther north across West Norris Street. A vacant lot is located northeast of the subject property at the northeast corner of West Norris Street and North 9th Street.

- South – West Berks Street borders the subject property to the south. A PGW office building and garage is located adjacent to the south of the subject property across West Berks Street, and a PGW garage is located adjacent to the southeast of the subject property at the southeast corner of the intersection of West Berks Street and North 9th Street.

- East – North 9th Street borders the subject property to the east, and residential dwellings and vacant lots are located farther east of the subject property across North 9th Street.

- West – SEPTA owns a right-of-way that extends from their elevated tracks, which run along the west side of the subject property, 25-feet into the parking lot that extends onto the subject property. The Temple University station of the SEPTA R-6 Regional rail line is located on an elevated platform to the west of the subject property.

3.0 USER PROVIDED INFORMATION

3.1 Chain of Title Information

Chain of title information was not provided by the User for review and inclusion in this report.

3.2 Environmental Liens and/or Activity and Use Limitations

PGW is not aware of any environmental liens that are filed or recorded against the subject property. Furthermore, PGW is not aware of any activity and use limitations ("AULs") (e.g., engineering controls, land use restrictions, or institutional controls) that are in place on the subject property or that have been filed or recorded in a registry under federal, tribal, state, or local law. Pennoni reviewed the current deed for the subject property as part of this Phase I ESA; based upon this review, Pennoni has concluded that the subject property is not subject to environmental liens, institutional controls, or engineering controls.

3.3 Specialized Knowledge and Interviews

Pennoni interviewed Mr. Douglas A. Moser, Senior Vice President of Gas Management with PGW, and Mr. R.S. Rajan with the Engineering and Building Services Department of PGW during the site inspection on March 1, 2010. Mr. Moser has been employed by PGW for 30 years, and Mr. Rajan was involved in the initial development of the subject property as a parking lot by PGW in 1986. Mr. Rajan explained that the subject property was granted for use as a parking lot for PGW personnel by the City of Philadelphia in 1986. At the time that PGW was granted rights to the subject property, the property contained large open sheds used to store rock salt for deicing roadways by the City of Philadelphia Streets Department. Mr. Rajan indicated that these structures were demolished by PGW; however, the foundations of the buildings were left in place. Mr. Rajan indicated that structural-grade fill was brought onsite to bring the property to grade and to provide a stable foundation for the parking lot that was paved onsite in 1986. Mr. Rajan was not aware of the origin or the environmental quality of the fill material brought onsite; he indicated that he specifically requested structural-grade fill. No clean fill certification was provided for the fill brought onsite.

Mr. Moser indicated that the CNG refueling station currently located in the northeast corner of the subject property was constructed onsite in 1996 by a private contractor and leased by PGW to refuel its fleet of CNG vehicles, which it has since phased out. Neither Mr. Moser nor Mr. Rajan were aware of any environmental concerns or releases associated with the CNG refueling station.

PGW further indicated that a property located across the street (900-940 West Diamond Street) is engaged in an Act 2 process.

3.4 Commonly Known or Reasonably Ascertainable Information

PGW is not aware of commonly known or reasonably ascertainable information about the property that would help the Environmental Professional to identify conditions indicative of releases or threatened releases other than the fact that the property was previously utilized as a coal yard and for rock salt storage. PGW indicated that rock salt was previously stored on the subject property; PGW is not aware of any other specific chemicals that are present or once were present on the subject property; spills or other chemical releases that have taken place at the subject property, or any environmental cleanups that have taken place at the subject property.

3.5 Valuation Reduction for Environmental Issues

PGW does not have current appraisal information for the subject property; therefore, Pennoni is unable to comment on whether the current valuation of the subject property reasonably reflects the fair market value of the subject property.

3.6 Presence or Likely Presence of Contamination at the Subject Property

Based on their knowledge and experience related to the subject property, neither Mr. Moser nor Mr. Rajan are aware of any obvious indicators that point to the presence or likely presence of contamination at the subject property.

3.7 Previous Reports

Previous environmental reports pertaining to the subject property were not provided by the User for review and inclusion in this report.

4.0 PHYSICAL SETTING

4.1 Topography/Regional Drainage

The subject property is located on the Philadelphia, Pennsylvania-New Jersey 7.5-minute USGS topographic quadrangle at an approximate elevation of 55 feet above mean sea level. Surface water on the subject property is expected to drain into storm water inlets located in the asphalt-paved parking lot on the subject property or into storm water inlets located along North 9th Street or West Berks Street. Stormwater that runs off the subject property is ultimately expected to discharge into the Delaware River, which drains the region, approximately 1.6 miles south-southeast of the subject property.

4.2 Soils

According to the *Soil Map* website published by the Pennsylvania State University College of Agricultural Sciences Cooperative Extension, soils beneath the subject property consist of Urban Land soils (mapping symbol Ub). This land type consists of cut and fill areas, most of which have been developed for residential, commercial, or industrial use or for multilane highways. During development, the original soil horizon was destroyed in at least 70 percent of the area. Areas of both cut and fill are moderately or rapidly permeable. Where the original soil was removed and the substratum exposed, the material remaining is rapidly permeable and extremely low in organic-matter content and fertility.

4.3 Underlying Formation

Based on the Pennsylvania Department of Conservation and Natural Resources ("DCNR"), Bureau of Topographic and Geological Survey's *Physiographic Provinces of Pennsylvania (Map 13), 4th Edition*, 2000, the subject property lies within the Atlantic Coastal Plain Physiographic Province, which consists of unconsolidated to poorly consolidated sand and gravel, which are underlain by highly folded and faulted schist, gneiss and other metamorphic rock.

According to the Pennsylvania Department of Environmental Resources *Geologic Map of Pennsylvania*, 1980, (Berg, et.al.), the surface bedrock for the subject property is comprised of the Pennsauken and Bridgeton Formations, undifferentiated. According to DCNR's *Engineering Characteristics of the Rocks of Pennsylvania* (Environmental Geology Report 1), 2nd edition, 1982, the Pennsauken Formation consists of yellow to dark reddish-brown sand, cemented and extensively crossbedded. Coarse gravel is interbedded throughout the formation with boulders (up to five feet in diameter) a common occurrence. This formation is crudely fractured with widely spaced, vertical breaks. The Pennsauken Formation provides good surface drainage with high porosity and permeability. The formation is generally an important source of groundwater and yields as much as 7,000 gallons per minute.

According to DCNR's *Engineering Characteristics of the Rocks of Pennsylvania* (Environmental Geology Report 1), 2nd edition, 1982, the Bridgton Formation is comprised of extensively crossbedded reddish brown clayey sand, below which is yellow or white and irregularly stained reddish brown zones. Locally, beds of gravel (vein quartz, chert, and quartzite) are present. The formation is approximately 30 feet thick, well bedded, deeply weathered, with no fracturing apparent. The formation has high porosity and medium permeability, with good surface drainage. Groundwater production varies based upon location within the formation; values between two (2) and 1,200 gallons per minute have been reported.

4.4 Groundwater

Groundwater is expected to flow to the south-southeast, parallel to the surface gradient. Groundwater would be expected to be located in the joints and fractures of the underlying formation. In order to further determine groundwater conditions on the subject property, however, a property-specific hydrogeologic investigation would be necessary.

4.5 Water Migratory Pathways

Potential migratory pathways for surface water and groundwater entering and exiting the subject property are important in establishing the potential for surrounding areas to impact the subject property or for the subject property to impact neighboring properties that are downgradient. Local topography slopes to the south-southeast; therefore, groundwater is expected to flow to the south-southeast toward the Delaware River. Surface water on the subject property is expected to drain into storm water inlets located in the asphalt-paved parking lot on the subject property or into storm water inlets located along North 9th Street and West Berks Street. Stormwater that runs off the subject property is ultimately expected to discharge into the Delaware River, which drains the region, approximately 1.6 miles south-southeast of the subject property.

5.0 HISTORICAL RECORDS

The purpose of consulting historical records is to develop a history of the previous uses of the subject property and surrounding area in order to help identify the likelihood of past uses having led to RECs in connection with the subject property.

ASTM E 1527-05 requires identification of all obvious uses of the subject property from the present, back to the subject property's first developed use (including agricultural uses and placement of fill dirt), or back to 1940, whichever is earlier. As such, Pennoni reviewed as many of the standard historical sources (i.e., aerial photographs, fire insurance maps, property tax files, recorded land title records, USGS topographic maps, local street directories, building department records, zoning/land use records, etc.) as were necessary and both reasonably ascertainable and practically reviewable (i.e., publicly available, obtainable from its source within reasonable time and cost constraints). In addition, the historical sources must be determined to be sufficiently useful by the environmental professional.

5.1 Aerial Photographs

Available aerial photographs were obtained from Environmental Data Resources, Inc. ("EDR") of Milford, Connecticut and from the Delaware Valley Regional Planning Commission ("DVRPC") in an effort to determine past uses and conditions of the subject property. Aerial photographs were reviewed for the years 1940, 1943, 1950, 1954, 1965, 1973, 1981, 1986, 2000, and 2005, with scales ranging from one (1) inch equal to 1,000 feet to one (1) inch equal to 200 feet. Copies of the aerial photographs reviewed by Pennoni are included in Appendix A. The following is a brief narrative of the aerial photographs reviewed:

- 1940 –Two (2) long, rectangular structures (identified as "Coal Pockets" in the 1917 and 1951 Sanborn Maps as described in Section 5.2 below) run north-south on the subject property, and several smaller buildings (identified as garages and storage buildings in the 1951 Sanborn Map) are depicted along the eastern border of the subject property. West Norris Street borders the subject property to the north, and covered railroad sidings enter the subject property from the northwest, providing access to the coal pockets located on the property. Industrial buildings are visible farther northwest of the subject property beyond the railroad tracks. An equipment storage yard and several small buildings are located to the north of the subject property across West Norris Street. North 9th Street borders the subject property to the east and attached residential dwellings are located farther east and northeast of the subject property. West Berks Street borders the subject property to the south. Several small buildings are located to the southeast of the subject property across West Berks Street, a large building is located adjacent to the south of the subject property across West Berks Street. Railroad tracks are located approximately 35-50' of the subject property to the west. A rail yard and several small buildings are located farther west of the subject property beyond the railroad tracks, and a large industrial building is located southwest of the subject property across the railroad tracks.

- 1943 – No significant changes to the subject property or surrounding area from the 1940 aerial photograph are apparent.

- 1950 – No significant changes to the subject property from the 1943 aerial photograph are apparent. The small buildings previously located adjacent to the southeast of the subject property

across West Berks Street have been cleared, and an asphalt-paved parking lot is now visible in this area.

- 1954 – No significant changes to the subject property from the 1954 aerial photograph are apparent. A building is now located adjacent to the southeast of the subject property across West Berks Street in the location of the asphalt-paved parking lot previously located in this area. Several new residential dwellings have been constructed to the west of the subject property beyond the rail yard.

- 1965 – No significant changes to the subject property from the 1950 aerial photograph are apparent. A parking lot is now visible adjacent to the east of the building located to the southwest of the subject property across West Berks Street.

- 1973 – No significant changes to the subject property or surrounding area from the 1965 aerial photograph are apparent.

- 1981 – The poor resolution of this aerial photograph prohibits a reliable description of the condition and uses of the subject property and surrounding area.

- 1986 – The buildings previously located on the subject property have been cleared, and the property appears to be utilized as an asphalt-paved parking lot.

- 2000 – The CNG refueling station is now visible in the northeast corner of the subject property. Many of the attached residential dwellings previously located adjacent to the east of the subject property across North 9th Street have been demolished, and vacant lots are now visible in this area. A canopy most likely associated with a filling station is visible adjacent to the east of the building located adjacent to the southwest of the subject property.

- 2005 – No significant changes to the subject property or surrounding area from the 2000 aerial photograph are apparent. The subject property and surrounding area appear generally as observed during Pennoni's recent site reconnaissance.

5.2 Historical Maps

Historical maps (e.g., Sanborn Fire Insurance Maps, County Maps, City Atlases, etc.) for the subject property obtained from Environmental Data Resources, Inc. and the *Greater Philadelphia GeoHistory Network* website were reviewed in an effort to determine past uses and conditions of the subject property. Historical maps were reviewed for the years 1843, 1855, 1862, 1875, 1895, 1910, 1917, 1951, 1975, 1980, and 1989. The following is a brief narrative of the historic map review:

- 1843 – The subject property is undeveloped. A small tributary to the Cohocksink Creek (which is depicted running to the north and east of the subject property) cuts across the southern half of the subject property. An elevated railroad line is depicted adjacent to the west of the subject property. The remaining area immediately surrounding the subject property consists of undeveloped land.

- 1855 – The subject property is undeveloped. Neither the tributary previously depicted on the property nor Cohocksink Creek are depicted on the 1855 historic map. The railroad tracks that

are near the subject property to the west are identified as being operated by the Norristown Rail Road. North 9th Street, West Berks Street, and West Norris Street now border the subject property, and other area streets are depicted as well. However, the area immediately surrounding the subject property remains undeveloped.

- 1862 – No significant changes to the subject property or surrounding area from the 1855 historic map are apparent, with the exception of Cohocksink Creek depicted running across the northern half of the subject property and a large tank identified as a "Gasometer" depicted on the property located adjacent to the north of the subject property across West Norris Street.

- 1875 – The subject property is identified as a rail yard for the Pennsylvania and Reading Rail Road Company ("P&R Rail Road"), and two (2) small buildings as well as numerous railroad tracks are depicted on the property. Two (2) large tanks identified as "Gasometers" and three (3) small buildings are depicted on the property located adjacent to the north of the subject property across West Norris Street. Residential dwellings have been constructed to the east of the subject property across North 9th Street. Several residential dwellings and stables are depicted to the south and southwest of the subject property across West Berks Street, and the Royer Brothers Iron Foundry and Metal Yard is depicted farther south of the subject property. A rail yard and residences are depicted to the west of the railroad tracks that are near the subject property to the west.

- 1895 – Several buildings are now depicted on the subject property, which is identified as a coal yard. The large tanks located adjacent to the north of the subject property across West Norris Street are now identified as "Gas Holders." Additional attached residential dwellings have been constructed to the east, northeast, and southeast of the subject property. Coal yards are also depicted to the south-southwest and southwest of the subject property.

- 1910 – The buildings previously located on the subject property have been cleared. Two (2) long rectangular "Coal Pockets" built over two (2) railroad spurs are depicted running north-south along the subject property, and several smaller buildings are depicted along the eastern boundary of the property. The subject property is identified as being operated by the Black Diamond Coal Company. Coal yards are no longer depicted to the southwest of the subject property, and the property located west of the subject property across the railroad tracks is now identified as a freight yard.

- 1917 – The subject property is now identified as the George B. Newton Coal Company. Two (2) of the small buildings located along the eastern border of the subject property are identified as offices, and a brick manure pit is also depicted along the eastern boundary of the property. An office is now depicted along the southern boundary of the subject property at the base of one (1) of the two (2) coal pockets depicted on the property. The property with the large tanks depicted to the north of the subject property is identified as being operated by the United Gas Improvement Company, and two (2) small control stations are depicted in the southeast corner of this property. A coke storage yard is depicted to the south-southwest of the subject property, and a steel company is depicted farther south. An industrial facility depicted to the southwest of the subject property across the railroad tracks is identified as being operated by N. Snellenburg & Company.

- 1951 – The subject property is now identified as the Frank Merrihew and Sons Inc. coal yard. Two (2) of the buildings located along the eastern boundary of the subject property are now identified as private garages. The large gas tanks previously depicted on the property adjacent to the north of the subject property across West Norris Street are no longer depicted, and this property is now identified as a Philadelphia Gas Works storage yard. A gasoline tank is depicted on the property located adjacent to the south-southwest of the subject property across West Berks Street.

- 1975 – The northern portion of the subject property is now identified as the Adams Coal Company, and the southern portions of the subject property are identified as the Erthal & Company coal yard and the Frank Merrihew and Sons Inc. coal yard. The building located adjacent to the southeast of the subject property is identified as a PGW "Transportation Building-truck garage and repair." A small filling station is depicted adjacent to the east of this building.

- 1980 – The buildings on the subject property are now identified as being vacant. No significant changes to the surrounding area from the 1975 Sanborn Map are apparent.

- 1989 – The buildings have been cleared from the subject property, which now consists of a vacant lot. No significant changes to the surrounding area from the 1980 Sanborn Map are apparent.

5.3 Property Tax Files

Property tax files including records of past ownership, appraisals, maps, sketches, photos, or other information pertaining to the property were not determined to be reasonably ascertainable, practically reviewable, and/or sufficiently useful.

Pennoni obtained a current tax map for the subject property from the Philadelphia Records Department. The subject property, which is currently owned by the City of Philadelphia, consists of approximately 1.946 acres of land identified as Philadelphia Tax Map 16-N-2 Parcel 8 (Lot 172). The property is also identified as Philadelphia Board of Revision of Taxes account number 781597700. A copy of a tax parcel map depicting the subject property is included as Figure 2—*Tax Map*, included in Appendix A.

5.4 Recorded Land Title Records

Recorded land title records including records of historical fee ownership, including leases, land contracts and AULs on or of the subject property were not determined to be reasonably ascertainable, practically reviewable, and/or sufficiently useful.

The Client provided Pennoni with a copy of the current deed for the subject property. According to this deed, the subject property is currently owned by the City of Philadelphia. City of Philadelphia acquired the subject property from the Southeastern Pennsylvania Transportation Authority on May 1, 1986 and recorded in Philadelphia Deed Book 462, Page 259. A copy of the current deed for the subject property is included in Appendix C.

5.5 Historical Topographical Maps

Historical Topographical Maps were not determined to be reasonably ascertainable, practically reviewable, and/or sufficiently useful.

5.6 Local Street Directories

Local Street Directories were not determined to be reasonably ascertainable, practically reviewable, and/or sufficiently useful.

5.7 Building Department Records

Building department records include records indicating permission of the local government to construct, alter, or demolish improvements on property were reviewed by Pennoni. Pennoni sent a request to review the available zoning file for 1900 North 9th Street and 901 West Berks Street to the City of Philadelphia Department of Licenses and Inspections ("L&I"). L&I provided Pennoni with the zoning file for the subject property via e-mail on March 1, 2010. Several permit applications from the 1940s proposed the erection of shelters and sheds as well as the repair of existing structures; at the time that these applications were submitted, the use of the property was listed as a coal yard. Permit application number 104802 dated May 12, 1986 proposed the demolition of existing site buildings, which included a dwelling and garages, and the development of an off-street parking lot with three (3) vehicle gates and one (1) pedestrian gate on the property; the owner of the property is listed as the Philadelphia Gas Works. Permit application 960322031 dated April 10, 1996 proposed the construction of a masonry building to house CNG tanks associated with a CNG refueling station with two (2) dispenser islands to be installed onsite. Supporting documentation indicated that the property and refueling station would be owned by PGW but operated by a private contractor, PAF Fueling Systems, Inc. Copies of documentation obtained from L&I are included in Appendix C.

5.8 Zoning/Land Use Records

Zoning/land use records for the subject property indicating the uses permitted by local government in particular zones within its jurisdiction were reviewed by Pennoni. According to the *Zoning Overlay* website mapping tool published by L&I, the subject property is zoned Industrial (G-2).

5.9 Previous Environmental Reports

Previous environmental reports pertaining to the subject property were not provided by the Client for review and inclusion in this report.

6.0 REGULATORY AGENCY RECORDS REVIEW

As part of the Phase I ESA for the subject property, Pennoni reviewed both standard and additional environmental record sources for the subject property and surrounding area. Our environmental records review consisted of a review of the following:

- the EDR Radius Map Report ("EDR Report") for the subject property provided by EDR;
- information requested from the United States Environmental Protection Agency ("USEPA"), Region III;
- information requested from the Pennsylvania Department of Environmental Protection ("PADEP"); and,
- information requested from regional and local sources including, the City of Philadelphia.

6.1 Standard Environmental Record Sources, Federal and State

Pennoni contracted the services of EDR to search both state and federal environmental databases in an attempt to identify potential concerns that may be associated with either the subject site and/or surrounding properties. The EDR Report provided listings, accompanied by a map, of facilities and operations with reported environmental concerns within the ASTM E 1527-05 specified search radius around the subject property.

The federal databases searched by the EDR Report included the following:

- Federal National Priorities List ("NPL") site list
- Federal Delisted NPL site list
- Federal Comprehensive Environmental Response, Compensation, and Liability Information System ("CERCLIS") list
- Federal CERCLIS No Further Remedial Action Planned ("NFRAP") site list
- Federal Resource Conservation and Recovery Act ("RCRA") Corrective Action ("CORRACTS") facilities list
- Federal Treatment, Storage, and Disposal ("RCRA TSD") facilities list
- Federal RCRA ("RCRA GEN") generators list
- Federal Institutional Control/Engineering Control ("IC/EC") registries
- Federal Emergency Response Notification System ("ERNS") list

The EDR Report also searched the following state database files:

- State Hazardous Waste Sites ("SHWS") list
- State Solid Waste Facility/Landfill ("SWF/LF") site list
- State Leaking Underground Storage Tank ("LUST") site list
- State Registered Underground and Aboveground Storage Tank ("REG UST/AST") site list
- State Institutional Control/Engineering Control ("IC/EC") registries
- State Voluntary Cleanup Program ("VCP") sites list
- State Brownfields sites list

The EDR Report is presented in Appendix B. Complete listings and descriptions of the each of the databases search are included in the EDR Report.

6.1.1 Subject Property

The subject property was not identified on any of the databases included in the EDR Report.

6.1.2 Vicinity Properties – Facilities of Potential Concern

The EDR Report identified the following facilities located adjacent to or in close proximity to the subject property.

- Philadelphia Gas Works/PGW Transportation Department
  1849 North 9th Street
  Philadelphia, PA 19122

The Philadelphia Gas Works/PGW Transportation Department site is located adjacent to the south of the subject property. According to the EDR Report this site is listed in the UST, RCRA-GEN, MANIFEST, and FINDS databases. The UST database for this site indicates that two (2) 1,000-gallon USTs containing gasoline, one (1) 10,000-gallon UST containing diesel fuel, one (1) 2,500-gallon UST containing diesel fuel, one (1) 550-gallon UST containing a hazardous substance, and one (1) 2,500-gallon UST containing an unidentified substance are registered as currently in use on this site. The RCRA-GEN database entry indicates that this site is a conditionally exempt small-quantity generator of hazardous waste, and the MANIFEST database entry indicates that tetrachloroetheylene has been generated at this site and transported offsite for disposal. No violations were reported. The FINDS database entry references the other listings. Under normal operating conditions, no adverse environmental impacts to the subject property are expected from this site.

- Philadelphia Gas Works Ninth & Diamond Transportation Department/Meter Shop
  900-940 West Diamond Street
  Philadelphia, PA 19122

The Philadelphia Gas Works Ninth & Diamond Transportation Department/Meter Shop site is located adjacent to the north of the subject property across West Norris Street. According to the EDR Report this site is listed in the UST, LUST, RCRA-GEN, MANIFEST, FINDS, and VCP databases. The UST database entry indicates that one (1) 10,000-gallon UST containing diesel fuel is currently in use at this site. The LUST database entry indicates that two (2) releases from underground storage tanks containing petroleum were reported for this site, including one (1) release reported on August 5, 1989 and one (1) release reported on September 24, 2007. The facility status for the 1989 release is listed as inactive; the status field for the 2007 release indicates that interim remedial actions have been initiated or completed. The RCRA-GEN database listing indicates that the Philadelphia Gas Works Ninth & Diamond Transportation Department/Meter Shop is a small quantity generator of hazardous waste. One (1) violation of the Solid Waste Management regulations was reported on March 10, 2005, and compliance was achieved on March 10, 2005. The MANIFEST database listings indicate that hazardous waste generated at this site was shipped offsite for disposal at the CycleChem Inc. facility in Elizabeth, New Jersey. The VCP database entry indicates that this site is enrolled in the Voluntary Cleanup Program. As reported in Section 3.3 above, PGW indicated that this property is engaged in an Act 2 process to address the identified releases. Subsurface soil and/or groundwater beneath the subject property may have been impacted by releases at this site.

- Hope Partnership for Education (Project Hope)
  1803-13, 1817-41, & 1847-61 N. 8th Street
  Philadelphia, PA 19121

The Hope Partnership for Education (Project Hope) Brownfields site is listed as being located 52 feet south of the subject property in the EDR Report; however, this site is actually located approximately 350 feet east-southeast of the subject property. The EDR report indicates that a Phase I ESA has been completed for this site. The site uses include commercial and residential properties, a school, a fur store, an electrical contractor, a dental office, a grocery store, and a drug store. No additional information was provided. Based upon the location of this site relative to the subject property, no adverse environmental impacts to the subject property are expected from this site.

- Won Ton
  802 West Berks Street
  Philadelphia, PA 19122

The Won Ton site is located approximately 221 feet to the east of the subject property according to the EDR Report. This site is listed in the EDR Historical Cleaners database; a laundry reportedly operated at this site in 1925 and 1930 according to the database entry. No additional information is provided. Based upon the location of this site relative to the subject property, no adverse environmental impacts to the subject property are expected from this site.

The remaining reported sites are not located on or adjacent to the subject property and are not expected to impact the subject property based on their location and/or reported regulatory status. Complete details for all of the sites listed in the EDR Report are included in Appendix B.

6.1.3 Orphan Sites

The unfiltered EDR Report identified thirty-six (36) orphan sites, or sites which could not be mapped due to inadequate address information. None of the identified orphan sites are located on or adjacent to the subject property.

6.2 Additional Environmental Records Sources – State and Federal

6.2.1 Pennsylvania Department of Environmental Protection

Pennoni submitted a written request, in a letter dated March 2, 2010, to the PADEP Southeast Regional Office for information regarding environmental concerns at the subject property. A copy of the letter is contained in Appendix C. Mr. Jim Guilliams, Records Custodian with PADEP, responded to our request via telephone on March 2, 2010; Mr. Guilliams indicated that PADEP had no records on file for the subject property.

6.2.2 United States Environmental Protection Agency

Pennoni submitted a written request, in a letter dated February 23, 2010, to USEPA, Region III for information regarding environmental concerns at the subject property. A copy of the letter is contained in Appendix C. No response to this inquiry has been received by Pennoni to date.

Information received, which changes the findings of this report, will be forwarded upon receipt.

6.3 Additional Environmental Records Sources – Regional and Local

6.3.1 Philadelphia Water Department

Pennoni submitted a written request, in a letter dated February 23, 2010, to the Philadelphia Water Department for information regarding environmental concerns at the subject property. Pennoni faxed an additional request containing specific property addresses for the subject property on March 2, 2010. A copy of the requests are contained in Appendix C. No response to this inquiry has been received by Pennoni to date. Information received, which changes the findings of this report, will be forwarded upon receipt.

7.0 SITE RECONNAISSANCE

Pennoni personnel completed an inspection of the subject property on March 1, 2010 in order to visually inspect the property for evidence of RECs. During the site visit, Mr. Jeffrey M. Ham, Associate Environmental Scientist with Pennoni, and Mr. Jim Amendt, Staff Environmental Scientist with Pennoni, were escorted by Mr. Douglas A. Moser, Senior Vice President of Gas Management with PGW, and Mr. R.S. Rajan with the Engineering and Building Services Department of PGW. Mr. Moser has been employed by PGW for 30 years, and Mr. Rajan was involved in the initial development of the subject property as a parking lot by PGW in 1986. Photographs of the significant features observed during the site inspections are provided in Appendix D.

Methodology

The property was observed by visually walking the surveyed property line. Interior portions of the subject property were accessed as well. Interior spaces of structures located on the subject property were observed in a methodical means by accessing each room and space including the basement and penthouse levels, if any.

Limitations

Access to interior areas within the building on the subject property was provided. The subject property visit and observations were not limited.

7.1 General Observations – Exterior Areas

The subject property consists of 1.946 acres improved with an asphalt-paved parking lot utilized by PGW personnel. An inactive CNG refueling station formerly utilized by PGW to refuel CNG-powered fleet vehicles is located in the northeast corner of the subject property. The CNG refueling station, which was constructed in 1996, consists of a cinderblock masonry structure constructed over a concrete slab with a corrugated metal roof supported by a steel frame that houses three (3) 48-inch inner diameter spherical CNG tanks, a compressor, a gas dryer, and a small control room. A second compressor, a 150-horespower compressor that replaced the compressor housed within the structure as the primary compressor, and an electrical switchgear box are located on a concrete pad on the northwest side of this structure. Two (2) CNG dispenser pump islands are located southwest of the structure. A plan depicting the features of the CNG refueling station on the property is included in Appendix C.

An eight-foot chain link fence surrounds the subject property; access to the property is obtained via three (3) electric-operated vehicle gates (which were not operational at the time of Pennoni's inspection) as well as one (1) pedestrian access gate. A small guard shack is also located along the eastern boundary of the subject property.

7.2 General Observations – Interior Areas

As described above, the CNG refueling station houses three (3) CNG tanks, a compressor, a gas dryer, and a small control room. The CNG tanks, compressor, and gas dryer are located in an open-air portion of the structure (this structure is secured with a locked gate), and the control room is fully enclosed and protected from the elements. The control room contains electrical controls and limited parts storage. The small guard shack along the eastern boundary of the subject property contained a chair.

7.3 Hazardous Substances in Connection with Identified Uses

No substantial quantities of hazardous substances were observed on the subject property. Pennoni observed one (1) 5-gallon bucket containing approximately two (2) gallons of used oil within the CNG refueling station structure. The container was open; however, no spillage or evidence of leakage was observed on the concrete surface beneath this bucket.

7.4 Storage Tanks

Pennoni observed three (3) 48-inch inner diameter spherical aboveground storage tanks ("ASTs") containing CNG on the subject property. The tanks were observed to be in good condition. Pennoni did not observe evidence of underground storage tanks ("UST") on the subject property.

7.5 Floor Drains and/or Sumps

No floor drains or sumps were observed within the structures on the subject property.

7.6 Other Observations

Based on the site reconnaissance, review of records, and historical usage of the subject property, Pennoni has identified the following conditions that may impact future development of this property or present the potential for future environmental liability.

Stains or Corrosion	Not Observed
Pits, Ponds or Lagoons	Not Observed
Stained Soil or Pavement	Not Observed
Stressed Vegetation	Not Observed
Fill Material	Not Observed
Municipal Solid Waste	Two (2) trash cans observed.
Regulated Waste Disposal	Not Observed
Biomedical Waste Disposal	Not Observed
Waste Water	Not Observed
Wells	Not Observed
Septic Systems	Not Observed
Current/Past Agricultural Activity	Not Observed
Odors	No strong, pungent, or noxious odors were observed
Pools of Liquid	Not Observed
Drums/Containers	Observed as described in Section 7.3
Unidentified Chemicals	Not Observed

7.7 Polychlorinated Biphenyls ("PCBs")

PCBs are a class of compounds that were developed in the 1930s and became widely used in industry from the mid-1900s to the late 1970s. The flame resistance of PCBs made them ideal for use in electrical equipment and they did not break down or react with other chemicals, even under extreme conditions of high temperature and pressure. PCBs were commonly used, therefore, in hydraulic fluids,

lubricating oils, and transformers, electric motors, switches, and capacitors (including fluorescent lighting ballasts), as well as in paints, plastics, and other household items.

Because PCBs persist in the environment and, because they are fat-soluble, they bio-accumulate in the food chain, the elimination of PCBs from distribution in commerce was mandated in federal legislation in the late 1970s. For economic reasons, however, the use of PCBs in existing equipment was allowed to continue for the useful or normal life of the equipment, as long as specific conditions were met. At present, many industrial facilities continue to rely upon PCB-containing equipment and transformers, while many commercial and residential structures continue to use lighting fixtures, switches, and other articles that contain some level of PCBs.

7.7.1 Transformers and Capacitors

Transformers and capacitors that contain an oil-based dielectric fluid are considered a recognized environmental condition, due to the potential presence of polychlorinated biphenyls ("PCBs") in the dielectric fluid. Pennoni observed one (1) pole-mounted transformer was observed along the east boundary of the subject property. The transformer did not have a label indicating PCB content; however, no staining or evidence of leakage was observed on the transformer pad or ground surface in the vicinity of the transformer. Because this transformer is owned by PECO Energy, any environmental liabilities associated with this transformer would be assumed by PECO Energy. One (1) small dry-type transformer was observed within the control room of the CNG refueling station; dry-type transformers do not contain dielectric fluid and thus would not be expected to contain PCBs.

7.7.2 Fluorescent Light Ballasts

Fluorescent light ballasts contain capacitors that may be filled with PCB-containing dielectric fluid. Fluorescent lights were observed within the CNG refueling station structure. No leaking or staining was observed on or around the light ballasts. Prior to renovation or demolition activities on the subject property, fluorescent light ballasts should be segregated based upon PCB content and disposed of in accordance with state and federal regulations.

7.7.3 Elevators and Hydraulic Equipment

Elevators and hydraulic equipment that contain hydraulic fluid are a potential area of environmental concern due to the potential for PCBs to be present in the hydraulic fluid. No elevators or hydraulic equipment were observed on the subject property.

7.8 Non-Scope Considerations

Asbestos is a naturally occurring mineral that has been used for centuries for variety of applications. Asbestos is a very stable crystalline mineral that forms fibers and withstands high temperature extremely well. Because of this physical and chemical property, commercial and industrial applications and usage of asbestos increased dramatically during the early 1900s. Asbestos was commonly known as a type of insulation, but it was also as a stabilizer and strengthening material in plaster, cement, and other composite materials. As such, asbestos was commonly used in building materials such as insulation, plaster, vinyl surfacing materials, and

roofing and roof flashings, as well as in brake linings, caulking, and gaskets for ovens and furnaces. Because asbestos is a mineral, it can also be found in the soils of some areas around the world.

Once commercially milled, asbestos fibers are typically found at sizes that are measured in microscopic, micron particle sizes. Uncontrolled releases of asbestos fibers can remain airborne for an extended time and the particles tend to by-pass most of the defense mechanisms of the respiratory tract. As such, asbestos fibers have the ability to reach the inner portions of the lungs where they can become lodged and cause significant scarring and damage on a cellular level. Diseases attributable to asbestos exposure include asbestosis, mesothelioma, and lung cancer. Occupational exposure to asbestos is, therefore, highly regulated in the workplace.

The mere presence of ACM in a building is not necessarily cause for significant concern. So long as asbestos is not disturbed or accessible to damage or contact and does not become airborne, it poses little health risk and management of ACM in-place is considered a safe and acceptable practice. The U.S. EPA and OSHA have issued substantial guidance regarding proper procedures for the operations and maintenance of asbestos in the workplace. The U.S. EPA has also issued guidelines for home and building owners who have ACM insulation and surfacing materials such as flooring and roofing in their houses. Consequently, while most commercial production and use of asbestos was discontinued in the late 1970s and early 1980s, ACM remain in-place and in use in many commercial, industrial, and residential structures.

Asbestos regulations govern issues such as asbestos exposure and materials handling, transportation, and disposal and they place obligations upon building owners and operators to make notification to building occupants, tenants, visitors, contractors, and employees who may come in contact with the ACM.

Building owners, in particular, are responsible to make notifications regarding the presence and location of ACM. Additionally, all suspect materials are required by law to be "presumed" to be asbestos containing materials ("PACM"). PACM must be handled and treated as ACM until proven otherwise to be non-ACM.

Policies and procedures relating to the on-going management of PACM and ACM in occupied buildings are typically presented in written asbestos Operations and Maintenance ("O&M") Plans. O&M Plans outline the various building owner responsibilities and procedures relating to the asbestos and serve as a tool to ensure consistent and proper management practices.

If a building containing ACM is to be demolished, the asbestos is typically removed prior to the demolition activities. Pursuant to the federal EPA National Emissions Standards for Hazardous Air Pollutants ("NESHAP") regulations in 40 CFR 61, subpart M, ACM and asbestos-containing wastes must be removed, handled, and disposed in a manner that does not allow visible and/or uncontrolled emissions of asbestos to the environment.

Also, pursuant to the OSHA General Industry Standards 29 CFR 1910.1001 and the Construction Standards in 29 CFR 1926.1101, employers of employees who may encounter ACM are responsible to ensure that the employees are not exposed to airborne concentrations in excess of permissible exposure limits ("PELs") that are based upon a time-weighted average exposure.

Additionally, the employees must be properly trained so that they can recognize hazards and avoid unacceptable exposure.

Findings

Pennoni completed an asbestos survey of the subject property, for suspect, accessible ACM on March 1, 2010. The asbestos survey was completed by Mr. Jim Amendt, one (1) of our United States Environmental Protection Agency ("USEPA") accredited, Pennsylvania licensed Asbestos Building Inspectors, and City of Philadelphia licensed Asbestos Inspectors. Our survey included an inspection for suspect ACM including: thermal system insulation, drywall partitions, wall and ceiling plasters, acoustical ceiling treatments, spray fireproofing, Transite® wallboard, floor and ceiling tiles, mastic, etc. The inspection included surfaces above suspended ceilings and other non-permanent structures, crawlspaces, pipe tunnels, vents, or ducts systems, etc., where readily accessible. Pennoni inspected all accessible areas of the structures on the subject property, including both the CNG refueling station and the guard shack.

The methodology employed by the inspection team consisted of categorizing and identifying all suspect asbestos building components or materials. Both friable (i.e., materials that can be pulverized or reduced to powder by normal hand pressure) and non-friable suspect asbestos containing materials were considered during the course of this inspection. Homogeneous materials (i.e., one which seems by function, texture, color, and wear to be uniform in nature and to have been applied during the same general time period) were identified and bulk samples of each material were collected to determine the content of the material and its physical condition. Suspect materials were grouped based on material homogeneity.

Representative bulk samples of suspect friable and non-friable ACM were collected per homogeneous material for analysis by an independent accredited laboratory. Asbestos samples were analyzed on a "first positive" basis such that, once one sample of a homogeneous material was found to be positive for asbestos content, the material was considered to be asbestos containing without analyzing the remaining samples.

One (1) homogeneous area (or suspect material) was identified in the survey area. The suspect material included patterned 12x12 inch vinyl floor tile and associated mastic within the guard shack. Pennoni collected two (2) samples of this material for laboratory analysis for asbestos content. The two (2) samples were collected, properly packaged, labeled, and transported to EMSL Analytical, Inc. ("EMSL") located in Westmont, New Jersey for analysis. EMSL is accredited under the National Voluntary Laboratory Accreditation Program. The samples were analyzed for asbestos using Polarized Light Microscopy ("PLM") via EPA Method 600/R-93/116.

Asbestos was not detected in the 12x12 inch floor tile or associated mastic. The laboratory analytical certificates are included in Appendix E.

7.8.2 Lead-Based Paint

Lead is commonly added to paints because of its characteristic to resist corrosion. LBP was used substantially for industrial applications; it is also commonly encountered in older commercial and residential properties.

Oral ingestion may represent a major route of exposure in contaminated workplaces and houses. Lead poisoning can cause permanent damage to the brain and many other organs and causes reduced intelligence and behavioral problems. Lead can also cause abnormal fetal development in pregnant women.

The U.S. EPA estimates that approximately three quarters of the nation's housing (i.e., roughly 64 million dwellings) contain some LBP. When properly maintained and managed, this paint poses little risk. However, 1.7 million children have blood-lead levels above safe limits, mostly due to exposure to LBP hazards.

According to the Housing and Urban Development ("HUD") Authority, lead-based paint LBP is defined as paint on surfaces with lead in excess of 1.0-milligrams per square centimeter ("mg/cm^2"), as measured by a x-ray fluorescence ("XRF") detector of 0.5 percent by weight.

Use of LBP in construction was banned in 1978 and Congress passed legislation in 1992 requiring the disclosure of known information on LBP and LBP hazards before the sale or lease of most housing built before 1978. Consequently, LBP was generally phased out in commercial buildings, as well.

Similar to asbestos, OSHA has also established worker protection standards for exposure to lead. Unlike the case with asbestos, however, LBP does not need to be removed from a structure prior to demolition so long as the issue of worker exposure and adequate protection can be addressed.

If waste materials from the demolition contain quantities sufficient quantities of LBP, it may meet the definition of a hazardous waste under the U.S. EPA's Resources Conservation and Recovery Act ("RCRA") found in 40 CFR 260 - 279. Therefore, the need for pre-demolition abatement of LBP must be evaluated on a case-by-case basis to determine if the abatement is warranted.

Pursuant to applicable OSHA regulations, the party that is contracting for services to perform work in the structure is required to provide notice to the contractor or employer that LBP is likely present. Most contractors will likely need to know specific locations of the paint such that many owners and managers of buildings containing LBP opt to have a survey performed so that information that is more specific is available and the matter does not delay renovation and construction projects.

Findings

Pennoni conducted a LBP survey of the structures on the subject property to determine if LBP is present on any of the existing painted surfaces or building components. The inspection and testing was performed using the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing – June 1995. The testing was performed on-site on March 1, 2010 utilizing a portable x-ray fluorescence lead-in-paint analyzer ("XRF") operated by Mr. Jim Amendt, a certified lead-testing technician. The survey included screening homogeneous painted surfaces with the XRF in order to determine the lead content of the paint.

Five (5) surfaces were tested throughout the accessible interior and exterior areas of the buildings on the subject property. Of the five (5) surfaces tested, none tested positive for lead. A complete summary of surfaces/components that were tested for LBP is included in the table below.

Surface Tested	Location	Result (mg/cm2)	Positive/Negative
Door (Gray Paint)	CNG Refueling Station	0.00	Negative
Door Frame (Gray Paint)	CNG Refueling Station	0.00	Negative
Building Exterior (White Paint)	CNG Refueling Station	0.01	Negative
Steel Beam-Wall (Gray Paint)	CNG Refueling Station	0.00	Negative
Steel Beam-Ceiling (Gray Paint)	CNG Refueling Station	0.00	Negative

7.8.3 Lead in Drinking Water

Drinking water is not currently supplied to the subject property; however, the Philadelphia Water Department does provide water service in the area. Public Water Suppliers are required to monitor lead levels in supply water and maintain corrosion control programs to minimize the leaching of lead from plumbing, solder joints, and fixtures. Collection of a sample of the water supplied to this property at point of use, and subsequent analysis, is necessary to determine if drinking water lead concentrations are of concern.

7.8.4 Wetlands

No soils or vegetation characteristic of wetlands were visible on the subject property, although a formal survey was not performed during the ESA. The U.S. Fish & Wildlife Service National Wetlands Inventory database was reviewed to determine if wetland areas have been mapped on the subject property. According to the U.S. Fish & Wildlife Service map, no wetlands are located on the subject property.

7.8.5 Radon Gas

Radon gas is a naturally occurring radioactive gas found in soils and rocks. It is generated by the decay of naturally occurring uranium as a colorless and odorless gas. Radon gas can accumulate once inside an enclosed space such as an office building or home. There is an increased risk of developing lung cancer when exposed to elevated levels of radon gas. In general, the risk increases as the concentration of radon gas and the length of exposure increases. The EPA has established 4 PicoCuries per liter ("pCi/L") of radon gas in indoor air as a guidance level for residences. Accumulations above 4 pCi/L are considered to represent a health risk to occupants.

According to the data obtained from PADEP's *Radon* website, the subject property lies within an area (the 19122 ZIP code) with an average indoor air radon concentration of 2.1 pCi/L, which is below the EPA-established guidance level of 4 pCi/L. Furthermore, the property does not contain sub-grade living or working space. Therefore, health risk due to radon concentration is not a concern on the subject property. Actual radon concentration can only be determined by actual on-site measurement. Pennoni understands that the Client is seeking Pennsylvania Housing Finance Agency ("PHFA") financing for the project proposed for the subject property. Because the building currently located on the subject property will be demolished as part of the proposed development, radon testing is not required at the subject property at this time.

However, PHFA requires that radon resistant construction techniques, including a passive sub-slab depressurization system, be incorporated into all new construction.

7.8.6 Mold

Pennoni conducted a limited visual inspection throughout the buildings to identify significant water damaged or mold-impacted building materials. The conditions of interior building components were inspected for evidence of mold, mildew, other visible contamination and/or anomalies. Pennoni inspected the buildings for the presence of areas of significant microbial proliferation on walls, fabrics, carpets, and ceilings.

No visual evidence of significant microbial growth was observed in the building on the subject property.

8.0 DATA GAPS AND DEVIATIONS

According to the Standards and Practices for All Appropriate Inquiries, Phase I Environmental Assessments must identify data gaps that would affect the ability of the environmental professional to identify conditions indicative of releases or threatened releases of pollutants, contaminants, petroleum and petroleum products, and controlled substances on the subject properties and to explain the significance of these data gaps. The following issues represent instances when either the investigation was hindered in some way, or where some issue was identified as a potential for concern but insufficient information was available to draw a conclusion or rule out that the issue did not represent a recognized environmental condition.

1. No property valuation was provided for review; therefore, Pennoni is unable to comment on whether the value of the subject property reasonably reflects the fair market value of comparable properties in the area. Pennoni does not consider this data gap to be a significant constraint on our ability to provide an opinion regarding RECs on the subject property.

2. Historic property tax files, historic topographical maps, and local street directories were not reviewed by Pennoni as part of this ESA. Pennoni determined that these standard historical resources were not reasonably ascertainable, practically reviewable, and/or sufficiently useful. Sufficient information documenting the historic uses of the subject property was obtained by reviewing available historical aerial photographs, historic maps, and building department records. Therefore, Pennoni does not consider this data gap to be a significant constraint on our ability to provide an opinion regarding RECs on the subject property.

9.0 ENVIRONMENTAL PROFESSIONAL STATEMENT AND SIGNATURE

I declare that, to the best of my professional knowledge and belief, I meet the definition of an "environmental professional" as defined at 40 C.F.R. §312.10. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.

William F. Schmidt, P.E.
Associate Vice President

10.0 REFERENCES

The following documents, publications, maps, etc. were used as source materials for this Phase I Environmental Site Assessment:

- USEPA 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries; Final Rule, November 1, 2005.
- ASTM Standards on Environmental Site Assessments for Commercial Real Estate (E 1527-05), Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, 2005.
- Philadelphia, PA-NJ, USGS, 7.5 minute topographic quadrangle, 1995.
- *Geologic Map of Pennsylvania*, Commonwealth of Pennsylvania Department of Environmental Resources Topographic and Geologic Survey, with a scale of 1 inch equal to 250,000 feet, 1990.
- *Physiographic Provinces of Pennsylvania (Map 13), 4th Edition*, Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geological Survey, 2000.
- *Engineering Characteristics of the Rocks of Pennsylvania (Environmental Geology Report 1)*, 2nd edition, Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geological Survey, 1982.
- EDR Radius Map™ Report with Geocheck Report, dated February 23, 2010, obtained from Environmental Data Resources, Inc., Inquiry Number 2705367.2s
- EDR Aerial Photo Decade Package, Report No. 2705367.4, February 23, 2010, obtained from Environmental Data Resources, Inc.
- EDR Certified Sanborn Map Report, Report No. 2705367.3, February 24, 2010, obtained from Environmental Data Resources, Inc
- *Wetlands Online Mapper* website published by the United States Fish and Wildlife Service. Available on-line at: http://wetlandsfws.er.usgs.gov/wtlnds/launch.html
- *Soil Map* website published by the Pennsylvania State University College of Agricultural Sciences Cooperative Extension. Available on-line at: http://soilmap.psu.edu/
- *Greater Philadelphia GeoHistory Network* website. Available on-line at: http://www.philageohistory.org/geohistory/index.cfm